

Software Engineering

SEM VI

26/05/14

IT

QP Code :MV-18185

(3 Hours)

[Total Marks :100

- N.B. (1) Question no. 1 is compulsory.
(2) Attempt any **four** questions from the remaining **six** questions.
(3) Assume suitable data if necessary.

1. (a) Consider the following 'C' function named

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```
int compute_gcd (int x, int y)
{
    while (x != y)
    {
        if (x > y) then
            x = x - y;
        else y = y - x;
    }
    return x;
}
```

Determine the cyclomatic complexity of the above problem and list different linearly independent paths using control flow graph.

- (b) Compare waterfall model and spiral model.

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- (c) What is Agility ? Describe Extreme programming process ?

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- (d) What do you understand by process maturity ?

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2. (a) Prepare software requirement specification (SRS) for course management system.

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- (b) Draw DFD (Level 0, 1 and 2) for above mentioned project, and explain.

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3. (a) Which life cycle model would you follow for developing following project and why.

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- (i) Library management system

- (ii) Web application.

- (b) List three common types of risks that a typical software project might suffer from.

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Give the RMMM plan for the same.

4. (a) Describe the activities of project scheduling and tracking.

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- (b) What is quality assurance ? Discuss various levels of quality assurance in software engineering.

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5. (a) What is baseline in the content of software configuration management ? Describe how version control and change control are carried out during SCM ? 10
- (b) What are the main advantages of using an object-oriented approach to software design over a function oriented approach ? 10
6. (a) Explain the user interface design process. 10
- (b) Explain the term unit testing integration testing. Also compare top-down and bottom-up testing. 10
7. Write short note on any **two** :— 20
- (a) Service-oriented software engineering
 - (b) Reverse engineering
 - (c) Empirical estimation techniques
 - (d) Test driven development.
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